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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/458,897	12/10/1999	TOM GIAMMARRESI	533/047	9422

26291 7590 01/27/2005

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EXAMINER

CHUNG, JASON J

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/458,897

Applicant(s)

GIAMMARRESI, TOM

Examiner

Jason J. Chung

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see response, filed 9/15/04, with respect to the rejection(s) of the claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Claim Objections

2. Claims 7-8 are objected to because of the following informalities: Claims 7-8 recites the limitation "said at least one non-volatile storage" in line 3 of claim 7. There is insufficient antecedent basis for this limitation in the claim. The examiner interprets the limitation to read, "at least one non-volatile storage". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duso (US Patent # 5,892,915) in view of Mann (US Patent # 5,862,312) in further view of Craig (US Patent # 5,790,176).

Regarding claim 1, Duso discloses distributing and sharing processing loads (providing parallelism: column 5, lines 48-49). Duso discloses dual redundant controller 28, 29 provide hot

Art Unit: 2611

failover redundant configuration (column 6, lines 28-34), which meets the limitation on increasing fault tolerance between provider equipment (20, column 6, lines 66-67) and subscriber equipment 54 of an interactive information distribution system (VOD, etc. column 5, lines 35-37).

Duso discloses receiving at a head-end, a request for video information from the subscriber (client) equipment (column 8, lines 27-32).

Duso discloses executing a video session from at least one managing module (contain application software to appropriately schedule (execute) the service request; column 8, lines 48-56) on a primary head end controller (28, figure 2) at the head end.

Duso discloses dedicating, at the head-end, at least one secondary head-end controller 29 having the at least one managing module as a reserve resource for executing the video session (28 and 29 are dual redundant controllers (column 6, line 28)) that run an operating system to provide a hot-failover redundant configuration (column 6, lines 31-36), that has application software to schedule (execute) the service request (column 8, lines 48-56).

Duso discloses, which meets the limitation on streaming, from a stream server 21, the video information to the requesting subscriber 54 equipment during a normal mode of operation (column 6, lines 46-48).

Duso fails to disclose wherein... one secondary head-end controller. Mann discloses the video session comprises (video: column 9, lines 1-5) concurrently executing the video session (concurrently: column 7, line 45-column 8, line 24) on at least one distributed managing module 24 (column 6, lines 37-43) associated with each of the primary head-end controller 12a-12e and the at least one secondary head-end controller 12a-12e. Mann discloses it would be

Art Unit: 2611

advantageous to build a more reliant fault tolerant system (column 2, lines 6-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Duso to execute the video session...secondary head-end controller and storing session state data...on storage device as taught by Mann in order to construct a more reliable and fault tolerant system.

Duso and Mann are silent as to storing session state data...on at least one storage device. Craig discloses storing session state data from an executed video session on at least one storage device (session manager 310 contains session supervisor that tracks and records (stores in storage device 310/312) all data pertinent to each session (column 13, lines 46-56) and maintains routing information for each session (column 14, lines 7-15)), for the benefit of using the information to restart an interrupted session (column 14, lines 13-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Duso in view of Mann with storing session state data from an executed video session on at least one storage device, as taught by Craig for the benefit of using the stored information to continue processing an interrupted video session in an interactive information distribution system.

Regarding claim 3, Duso discloses executing the session on at least one non-distributed managing module (Duso: 29) associated with the primary head-end controller (provides a hot-failover redundant configuration; column 6, lines 28-36).

Regarding claim 4, the combined systems of Duso, Mann, and Craig discloses the method comprising:

Art Unit: 2611

Processing the session-state data through the at least one distributed managing module (Mann: column 7, line 45-column 8, line 24) concurrently on the primary head-end controller and the at least one secondary head-end controller (Duso: 28 and 29), wherein the at least one distributed managing module on the primary head-end controller and the at least one secondary head-end controller is an active mode (Duso: 28 active); and

Processing the session-state data from the at least one non-distributed managing module on the primary head-end controller (Duso: 28), wherein the at least one non-distributed managing module on the primary head-end controller is in an active mode (Duso: 28 active), and wherein the at least one non-distributed managing module on the secondary head-end controller is in a standby mode (Duso: 29 provides a hot-failover redundant configuration; column 6, lines 28-36).

Regarding claim 5, the combined systems of Duso, Mann, and Craig discloses the method comprising:

Processing the session state data (Craig: uses stored information (session state data) in the case to restart an interrupted session; column 14, lines 13-15) produced by the primary head end controller (Duso: 28) via the at least one secondary head end controller (Duso: 29) in a failure mode of operation (Duso: 28 inoperable), wherein the primary head end controller becomes inoperative (Duso: 29 provides a hot failover redundant configuration; column 6, lines 28-36).

Regarding claim 6, the combined systems of Duso, Mann, and Craig discloses the method comprising:

Streaming video information from a stream server to an access controller in the normal mode of operation, wherein the primary head-end controller (Duso 28) manages the video

Art Unit: 2611

session between the stream server 21 (Duso: column 6, lines 46-60) and at least one access controller 53 (Duso: column 6, lines 56-60).

Streaming video information from the stream server to the access controller in the failure mode of operation, wherein the secondary head-end controller 29 manages the video session between the stream server 21 (Duso: column 6, lines 46-60) and the access controller 53 (Duso: column 6, lines 56-60).

Regarding claim 11, the limitations in claim 11 have been met in claim 1 rejection. Duso discloses the additional limitations of a stream server 21 (column 6, lines 46-60) a plurality of access controllers (arrays of cross bar switches: column 6, lines 48-52).

4. Claims 7-10, 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duso in view of Mann in further view of Craig in further view of Beal (US Patent # 5,155,845).

Regarding claim 7, the combined systems of Duso, Mann, Craig, and Beal discloses the method comprising:

Storing the session state data (Craig: session manager 310 contains session supervisor 312 that tracks and records all data pertinent to each session (column 13, lines 46-56) and maintains routing information for each session (column 14, lines 7-15)) produced by the primary head-end controller (Duso: 28) on at least one storage device (Craig: the storage device necessary to store data for 310/312) coupled to the primary head end controller

Storing the session state data (Craig: session manager 310 contains session supervisor 312 that tracks and stores all data pertinent to each session (column 13, lines 46-56) and maintains routing information for each session (column 14, lines 7-15)) produced by the at least one secondary head end controller (Duso: 29).

However, they fail to store data from one controller on a storage device of the other controller as claimed.

Beal discloses storing the session state data produced by the primary head end controller 121 (figure 3) on at least one storage device 111 coupled to the primary head end controller (column 6, lines 54-58) and storing the session state data produced by the at least one secondary head end controller 101 (figure 3) on the at least one storage device 111 coupled to the primary head end controller (column 6, line 64-column 7, line 2). Beal discloses this provides a system that upon a failure of a controller the other controller may perform the duties of the failed controller by operating from the duplicated records stored on the drive (column 7, lines 17-22). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Duso in view of Mann in further view of Craig with storing data from one controller on a storage device of the other controller as taught by Beal in order to respond upon failure of a controller with another controller such that the responding controller may perform the duties of the failed controller by operating from the failed controller's stored session data stored on the storage device.

Craig discloses a session manager records (memory) session data (column 13, lines 46-56). However, the references fail to claim the non-volatile memory. The examiner takes Official Notice that non-volatile memories are notoriously well known in the art to store information long term. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Duso in view of Mann in further view of Craig in further view of Beal to have a non-volatile memory in order to store information long term without losing the information in the event of a system malfunction.

Art Unit: 2611

Regarding claim 8, the combined systems of Duso, Mann, Craig, and Beal discloses the method, wherein at the least one storage device comprises a plurality of storage devices (Beal: figure 3, multiple drives 111 1-n), the method comprising:

Replicating (Beal: column 6, lines 58-64) the stored session state data from one of the plurality of the storage devices coupled to the primary head end controller (Duso: 28), to each of the remaining storage devices of the plurality of storage devices coupled to the at least one secondary head end controller (Duso: 29);

Wherein the at least one secondary head end controller (Duso: 29) retrieves the session state data executed by the managing modules of the primary head end controller for continuing the video session (Craig: uses stored information (session state data) in the case to restart an interrupted session; column 14, lines 13-15) with the subscriber equipment.

Regarding claims 9-10, the limitations in claims 9-10 have been met in claims 8-9 rejections. Craig discloses a volatile memory (DRAM (column 11, lines 43-59)), which meets the differing limitation on volatile memory.

Regarding claim 12, the limitations in claim 12 have been met in claim 1 rejection. Beal discloses the additional limitation of a processor 121 for processing session state data produced by modules 107, 105 and memory devices 111, 109 coupled to the modules (column 6, lines 45-column 7, line 56). Craig discloses temporary storage (DRAM: column 11, lines 43-59).

Regarding claim 13, the limitations in claim 13 have been met in claim 1 rejection.

Regarding claim 14, the limitations in claim 14 have been met in claims 4-6 rejections.

Regarding claim 15, the limitations in claim 15 have been met in claim 4 rejection.

Art Unit: 2611

Regarding claims 16-17, the limitations in claims 16-17 have been met in claims 4-6, 9-10 rejections.

Regarding claim 18, the limitations in claim 18 have been met in claims 9-10 rejections. Neither Duso, Mann, Craig, nor Beal discloses a centrally networked memory. The examiner takes Official Notice that centrally located memories are notoriously well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Duso in view of Mann in further view of Craig in further view of Beal to have a central storage in order to reliably share data among head ends without having to connect to another head end's local memory.

Regarding claims 19-21, the limitations in claims 19-21 have been met in claims 9-10 rejections. Beal discloses the additional limitation of local storage devices 111, 109 (figure 3; column 6, line 45-column 7, line 22).

Conclusion


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Chung whose telephone number is (703) 305-7362. The examiner can normally be reached on M-F, 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJC



VIVEK SRIVASTAVA
PRIMARY EXAMINER